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A Study of Bird Songs.

BY JNO. J. WILLIAMS.

CHAPTER I. PREPARATORY STUDY OF BIRD SONGS.

IN treating of such a complex subject as Bird Songs, there are usually two methods of procedure open to the observer. One way, and the more common one too, is to lump the whole subject into as small a space as possible and, considering it collectively, go into rhapsodies over the enchantment of some bird's songs, the soul stirring melodies of others, or the sad sorrowful intonations of others, exactly as we do with human singers, while a criticism of the harsh, monotonous, discordant or lesser cries and notes of a host of others is relegated to some later edition, or at best, passed over in scorn, the writer securing his or her basis for such a treatise from a week's visit to some neighbor's country home.

No thought of the eternal life struggle that has been molding and perfecting even the poorest avian solos, enters into their consideration of the subject; no inborn love for the birds themselves bestirs the author's mighty pen; no question arises as to the causes or usefulness of the songs themselves. In short they are beautiful or harsh or sad to them and that is all there is to it.

This is the simpler method of treating the subject, but there is a more thorough way which gives better results even if it is a little more intricate. In the first place bird songs, as a rule, are not the meaningless warblings and twitterings they may seem to be to the casual observer. Most of them are used by the birds for various purposes or to further certain ends, although some probably are not as useful to them as others. Even a student of bird songs will at times run across a note or a song which apparently is useless to the bird itself and yet a little more study of it will later on disclose to him its usefulness. Such at least has been my experience.

Originally the pleasure that birds'

songs gave me was a passing one. Later on while they sang, I listened and when their songs ceased I went on my way somewhat reluctantly. Then from simply listening to their murmurings and forgetting them, I gradually came to look forward to them, wondering at their innumerable variations and trying to memorize some of the simpler ones, for what reason I knew not. But this I quickly found was hard work. To listen to the ups and downs of a bird's song is easy for anyone to do but to mentally photograph all or any of these variations, so that the mind can partially recall them later on, is a task for even a practiced observer. Soon I found that their songs were really separable into two main divisions, that is common and special notes, and true songs.

In some cases the two divisions intergrade to some extent, as might be expected, but taken throughout they formed two distinct classes of vocal efforts, and the common and special notes were much more easily remembered, owing to their simplicity and more frequent use. This subdivision into two classes also saved some confusion in studying them, for by putting the songs aside, temporarily, and concentrating observation and memory on the simpler notes, a better foundation for a detailed study of songs proper, was made.

Among the common and special notes I included those used for warning, calling or commanding, and also the very varied flying and perching notes and then I began considering them separately. Until then I was in complete ignorance of their importance and meaning to the birds, thinking as others did possibly, that they might be of some slight use to them or they would not make use of them and it must have been about

that time that I took to inquiring into the necessity of birds songs. If they were of no importance to them, as I had hitherto supposed them to be, why did they use them at all?

This course of reasoning was interesting and opened up a new line of investigation. It was only then that I began to get a faint idea of the true depth of the subject. Bird songs were not useless. They were the outcome of innumerable avian needs and necessities and for untold generations of birds' lives they had been used by them as a means of communication, advancement and protection. In short their twitterings and murmurings, so meaningless and disconnected to us, are to all intents and purposes a language, that conveys to the birds in a crude form a great deal of very useful information. I do not mean to say they HAVE a language or even an approach to one, but the system of notes that each species uses is a means whereby any member of a flock can convey to the rest of the flock any one of quite a number of ideas.

Besides this while the notes of one species are most thoroughly familiar to that species, still other kinds of birds, specifically and even generically different, do at times take advantage of each others notes, especially when there is trouble around. The most prominent instances of this sort that have come to my attention relate to california jays (*Aphelocoma californica*.) The minute they discover any two or four-legged foe in their domain, they raise their voices in protest, first one, then another joining in the chorus and various other birds of different species and genera, such as the usual run of woodland seed-eaters, are on the alert at once and remain so until all danger is over.

The idea of birds having even a substitute for a language will seem rather far-fetched to a great many people and this, I remember, was my first impression of it, so in order to make sure of it I began by memorizing the notes of the commonest species of birds, at the same

time noting everything I could in regard to each kind of note, as for instance, the occasion of its use; the effects of its use on other birds (of its own species in particular) and also what notes, if any the other birds gave in reply. This was not as easy as it seemed to be, for at the outset I found it was very hard for a beginner to imitate accurately, mentally or orally, even the commonest bird notes, as the note syllables are not always as defined and distinct as they might be and it takes a long time to get accustomed to this peculiarity. However by frequent repetition of a note OUT LOUD, while the bird was uttering it, I partially overcome this difficulty.

As an illustration, take the call note of the red-shafted flicker (*Colaptes cafer collaris*), one of the most wide-spread birds of the state. Some people call the note "chee up" or even "cheer up"; others call it variously "ye up," "kee yik" or "kyee yuk." At times it sounds like one, then like another of these imitations, so that it would take an expert's opinion to decide which it is. By memorizing the commonest notes of several species of birds, together with keeping a record of the conditions under which they were used, I soon became able to multiply observations on each kind of note and the conditions of its use, and in this way could readily compare the notes and their respective causes and effects, in many cases, a number of times over, only to find that each kind of note caused its own particular effect on the other members of a flock of the same species, showing that birds of the same species had a pretty thorough understanding of their own notes.

In quite a good many cases though I could not make these comparisons for I only dimly understood the cause of the note or notes used, so I continued the study by taking up each note in detail, considering chiefly its cause and effect. While doing this I gradually distinguished quite a difference between common and special notes, and as it seemed

to be a fairly constant one, I have made use of it for several reasons. The main point of difference between the two notes is, not in the notes themselves so much as it is in the manner in which they are made use of by the birds. For instance the danger notes of the valley quail (*Lophortyx californicus vallicolus*) consist of an emphatic and very rapid repetition of several notes, the arrangement of the notes varying somewhat even with each bird.

In the notes themselves there is nothing extraordinary, but their difference from common notes lies in their being used by the birds only on extreme occasions. From this point of view they can be called special notes. This will give an idea of their distinct nature and it seems reasonable, in studying both kinds of notes, to keep this distinction in mind, even if the difference is of an arbitrary kind.



The Pinyon Jay.

THE pinyon jay (*Cyanocephalus cyanocephalus*) occurs liberally and is resident in this, the central part of Utah. You must not think that he is to be found everywhere, but should you have occasion to travel through the forests of cedar and pinyon pine you may find him in astonishing numbers. I have observed this jay more frequently in Cedar and Rush valleys than elsewhere; these valleys are perhaps 15 by 40 miles each in extent and for the most part are sagebrush deserts. Along their borders are patches or growths of scrub cedar, and in the hills surrounding them are plentiful numbers of the pinyon pine.

Some time ago I was watching a flock of Audubon warblers in one of the cedar forests when a flock of perhaps 100 pinyon jays suddenly came along, alighting all about me but hardly staying long enough to make mention of it. Then,

one after another, along they went, flying almost from tree to tree, each seemingly trying to outdo his companions in the matter of harsh, discordant notes.

In its nesting habits this jay is erratic. I have found a single nest with no others about, even after a diligent search; then again I know of a mountain mahogany fairly full of their nests, some nearly touching each other. I would classify their nesting as usually en colony. They nest preferably in some coniferous tree such as pinyon pine, scrub pine, scrub cedar or juniper, but may also be found in mountain mahogany and sometimes in brushy thickets. They are not beautiful birds, being somewhat between the ashy slate-blue of Woodhouse and the beautiful blue of the black-headed variety,—yet as you see them restless and roving, going through a cedar patch, they offer a kindly contrast to the otherwise quiet and peaceful locality.

Their habits are very similar to Clarke crow, as is doubtless also their food, and I have usually found both birds in the same localities except in breeding season when Clarke crow seeks loftier altitudes and earlier months in which to propagate its kind. The eggs of both species are somewhat similar and might be confused in certain cases. The pinyon jay is also called "camp robber" along with the Clarke crow and I have often been led astray when hunting for the rare eggs of the latter, because of the former bird being meant by my kindly-disposed friends. The pinyon jay will often hop right into your camp where he finds crumbs, and he does not always draw the line at certain light articles convenient to the table and comfort of the campers. This kleptomania seems common to the nature of the Canada and pinyon jays, as well as to the Clarke nutcracker.

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